

International-Related Activities and Opportunities at NSF

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Chemistry-Related Activities and Opportunities



NSF & Chemistry's Goal

Become more **globally engaged** by adding **international collaborations** to **NSF-funded projects**.



How Can I Do This?

- A PI may include, within a proposal, funds to support the PI and/or a student / postdoctoral researcher to **travel abroad and perform research in a collaborator's laboratory.**
- The collaboration must be justified within the **Project Description** and evidence of support from the partner institution should be provided as **Supporting Information.**



<http://www.nsf.gov/mps/che/about.jsp>

Continued...

- Create a **network of investigators** among teams of NSF-supported **U.S. scientists** and **engineers** and their **international partners** with complementary strengths and common interests in order to form **virtual institutes** to foster enhanced research collaboration, data sharing, networking, and technical exchanges of students, post docs, and junior faculty across borders.



NSF Office of International Science and Engineering (OISE) – Related Activities and Opportunities



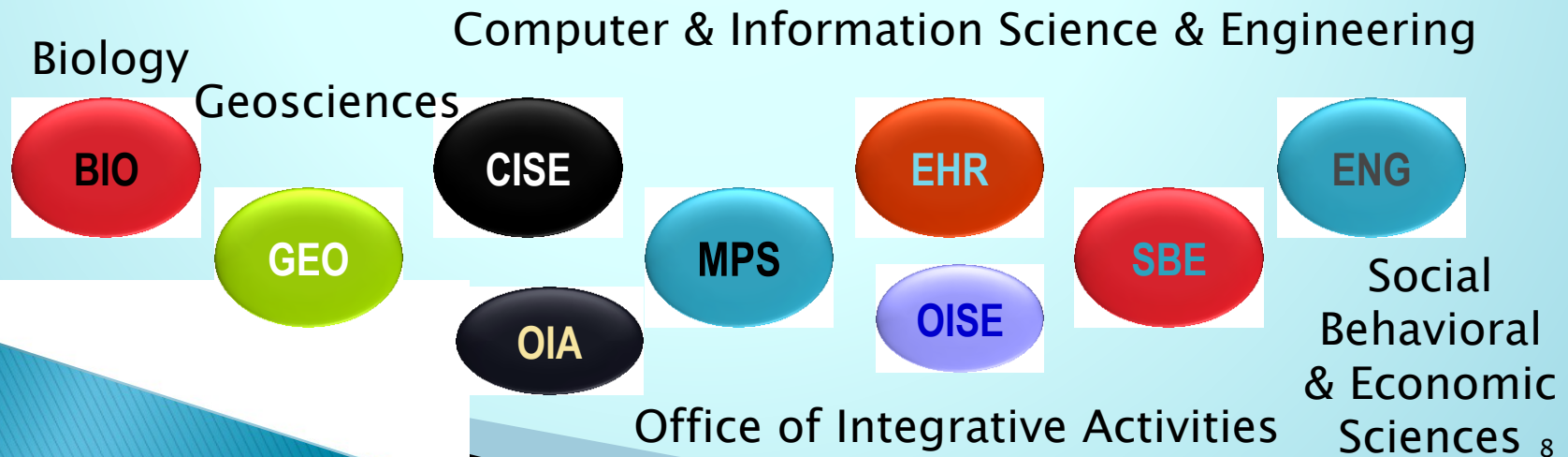
NSF & OISE's Goals

- Advance the FRONTIERS of Science and Engineering
 - ACCESS to unique expertise, facilities, and phenomena
 - LEVERAGE limited resources
 - EXCHANGE insights and techniques
 - ADDRESS national, transnational and global challenges
- Prepare a GLOBALLY-ENGAGED U.S. S&E Workforce
 - NURTURE capable young researchers with strong networks overseas
 - DEVELOP a global perspective
 - FACILITATE mobility and brain circulation



Keep in Mind

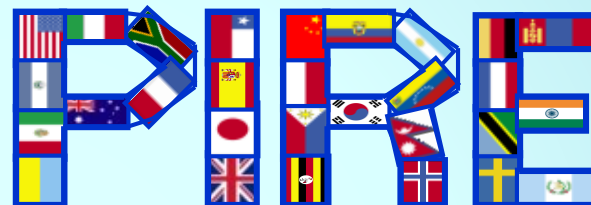
- ▶ Most NSF disciplinary programs fund international research and education activities as part of regular awards or as supplements.
- ▶ NSF funds the U.S. side of international collaborations.



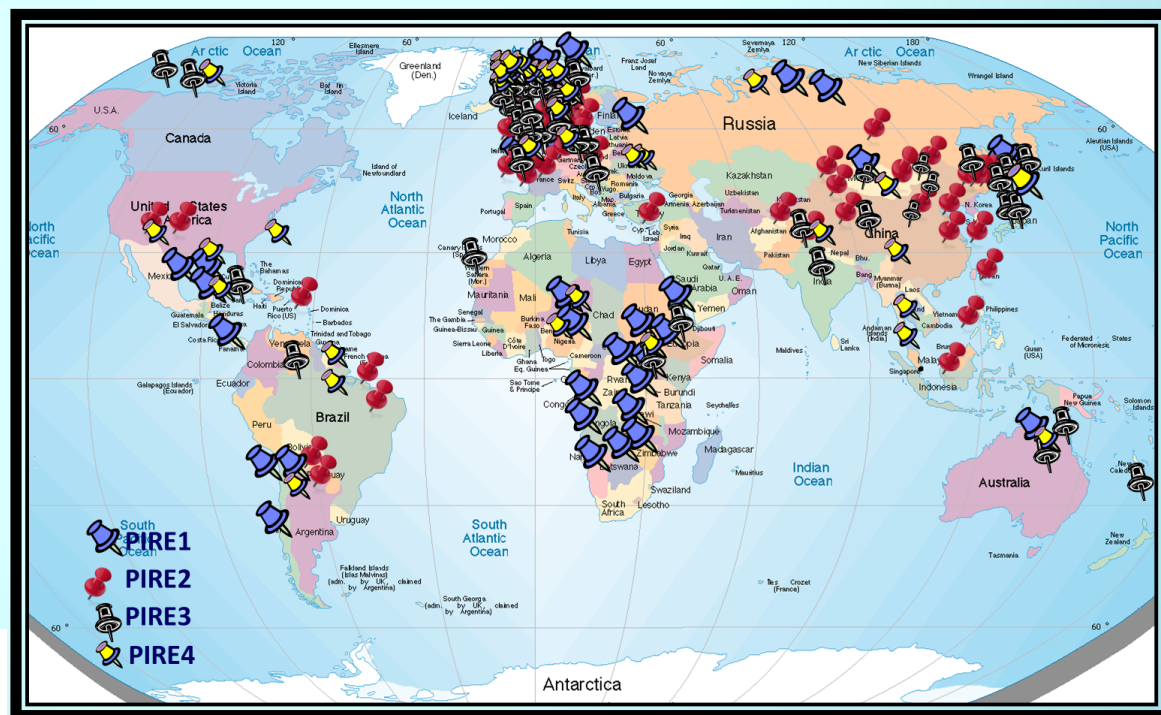
OISE's Managed Programs



Partnerships for International Research & Education (PIRE)



- Frontier research that leverages unique, complementary expertise of US & international partners
- 5 year awards
- Average award \$4M
- ~60 active awards
- All NSF disciplines



International Research Experience for Students (IRES)

- Develop a more **globally engaged** S&E workforce
- Supports small group of **students** for focused research experience overseas
- Graduate and/or undergraduate students
- **\$250,000** maximum budget for up to **three years**



Graduate Research Opportunities Worldwide (GROW)

- ▶ Managed by EHR and OISE
- ▶ Offers opportunities for **3-12 month** international research collaborations to **NSF Graduate Research Fellows**.
- ▶ Contact: grow@nsf.gov
- ▶ 15 Current Partners and growing!



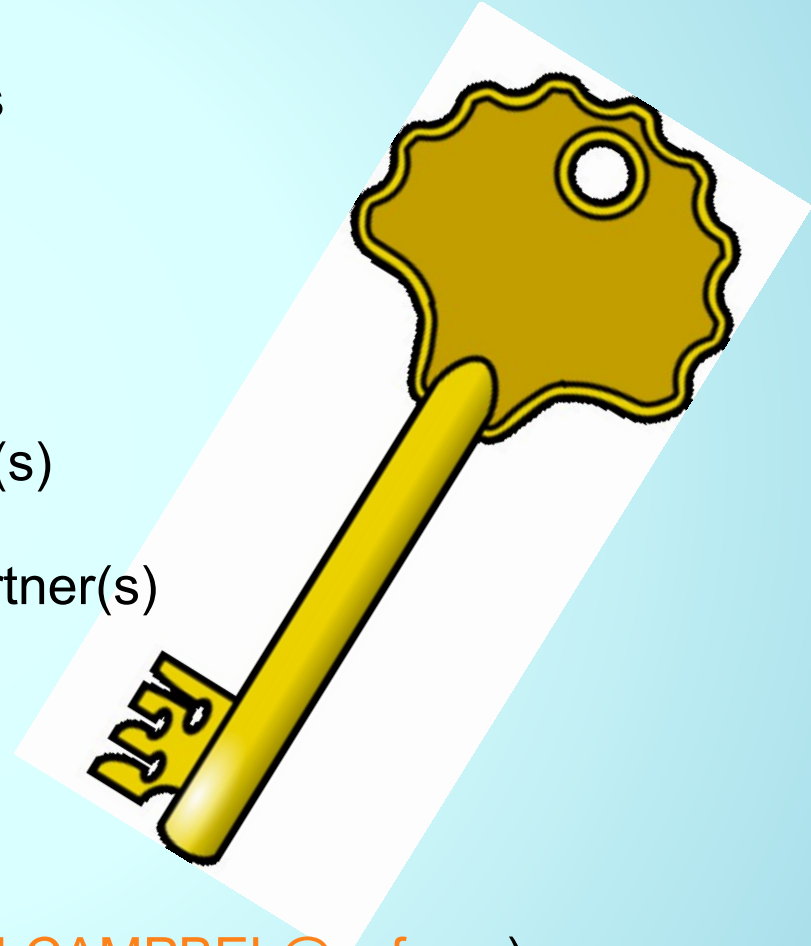
Partnerships for Enhanced Engagement in Research (PEER)

- USAID provides funding for partners in **developing countries**.
- U.S. investigator must have an active NSF award (or NIH, USDA, USGS, NASA, Smithsonian). May request supplement if partner funded.
- Only certain countries eligible (check website)
- Managed by **National Academies**



Keys to Success

- ▶ **Excellent Science** - demonstrate how the collaboration enhances the research
- ▶ **Involve** U.S. students & junior researchers
 - Prepare, mentor, and assess
 - Pay them: travel, living costs, stipends
- ▶ Meaningful attention to **diversity**
- ▶ Include **bio-sketch**(es) of key collaborator(s)
- ▶ Include **letter(s) of collaboration** from partner(s)
- ▶ Know and observe special rules
 - Fly America Act
 - Visa regulations
- ▶ Consult program officers early in process (LCAMPBEL@nsf.gov)



Engineering-Related Activities and Opportunities



European Research Area Network (ERA NET) & Safe Implementation of Innovative Nanoscience & Nanotechnology (SIINN)

- Collaborative research in **U.S. and Europe**
- Participating U.S. Agencies – NSF, CPSC, NIEHS, & NIH
- **NSF DCL 15-022** (Nov 2014)
- 48 collaborative proposals received with 18 U.S. PIs
- International Review Panel - June 29-30 2015 in Portugal
- Top 3 proposals had U.S. teams
- Approximately 10 collaborative awards with 5 U.S. PIs
- ~ \$2-4 M € Contact: nosavage@nsf.gov



International Activities and Opportunities Funded by the Division of Materials Science



Contact: Dr. Michael Scott: mjscott@nsf.gov

<http://www.nsf.gov/div/index.jsp?div=DMR>

Examples of Societies, Conferences, Workshops, & Summer Schools

- ▶ [JUAMI – Joint US-Africa Materials Institute](#)
- ▶ [International Society of African Scientists](#)
- ▶ [African Academy of Sciences](#)
- ▶ [Network of African Science Academies](#)
- ▶ [Federation of African Societies of Chemistry](#)
- ▶ [Africa Materials Research Society](#)
- ▶ [International Society of Electrochemistry](#)
- ▶ [African Physical Society](#)
- ▶ [NanoAfNet](#)
- ▶ [ASESMA – African School on Electronic Structure Methods and Applications](#) (ICTP)





The next JUAMI event will be held in Arusha, Tanzania
(May 30–June 10, 2016)



Main Countries:

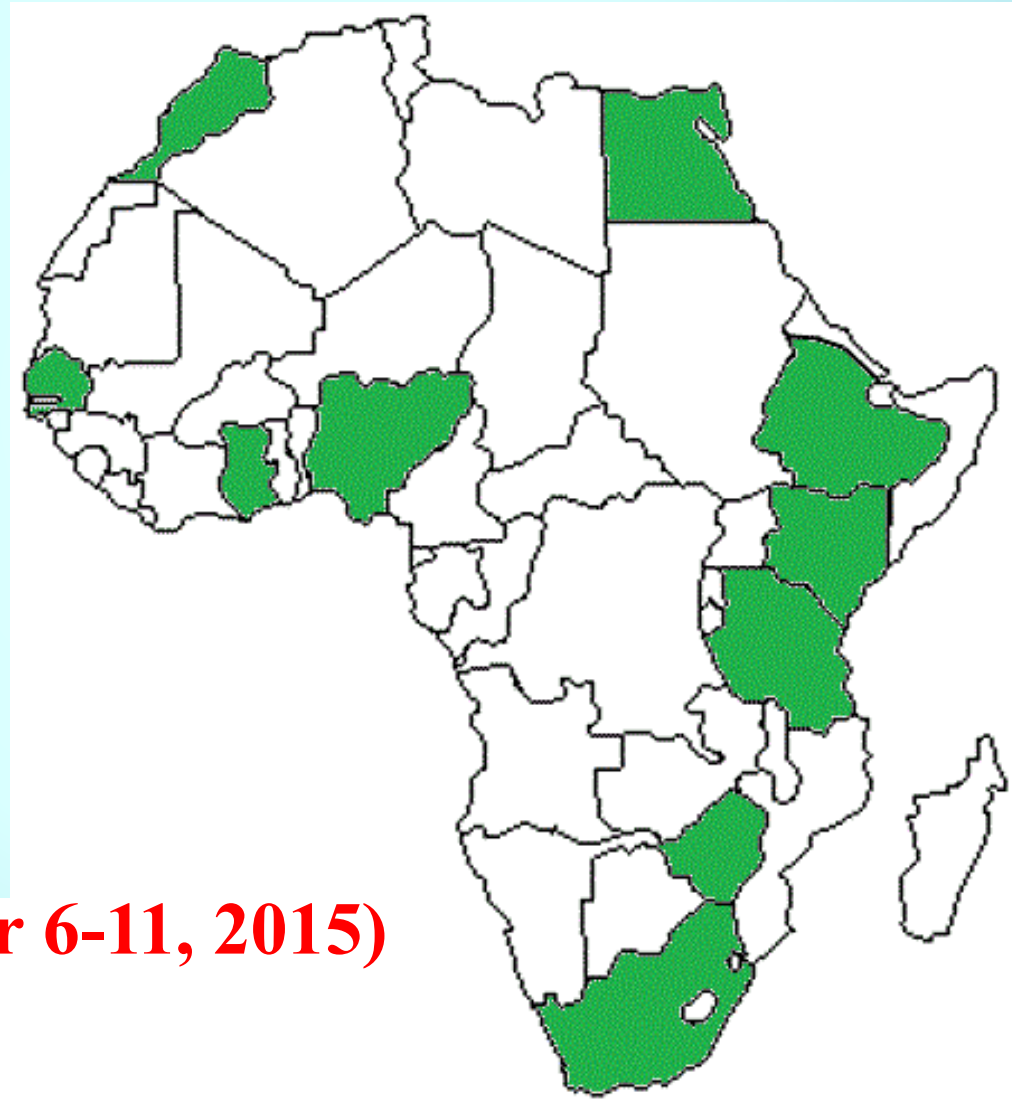
Uganda
Ethiopia
Tanzania
Kenya



<http://juamiresearchportal.pbworks.com/w/page/67361811/Home>

Subsequent biennial Africa MRS Conferences held in

- South Africa
- Kenya
- Senegal
- Egypt
- Morocco
- Tanzania
- Nigeria
- Zimbabwe
- Ethiopia
- **Ghana**



○ **(December 6-11, 2015)**

Purpose of Africa MRS Conferences

- Facilitate **effective partnership** and collaborations among African materials scientists and their counterparts outside Africa.
- Support the **development** of a virtual network of materials research activities in Africa.
- Support **improvement of science** education in Africa.



USA-Africa Collaboration

USAMI: US-Africa Materials Institute

Research programmes

1. Biomaterials
2. Materials for Affordable housing
3. Thermo-structural materials
4. Nanoscale thin films/MEMS

Collaborating African Institutions:

Alexandria University , EGYPT

Cheikh Anta Diop University , SENEGAL

Egyptian Atomic Energy Authority, Egypt

FIIRO, NIGERIA

Kyambogo University, UGANDA

Makerere University, UGANDA

Mbacke Niang and Associates, SENEGAL

Obafemi Awolowo University, NIGERIA

University of Addis Ababa, ETHIOPIA

University of Blida , ALGERIA

University of Botswana, BOTSWANA

University of Dar-es-Salaam, TANZANIA

University Hassan II - Mohammedia ,

MOROCCO

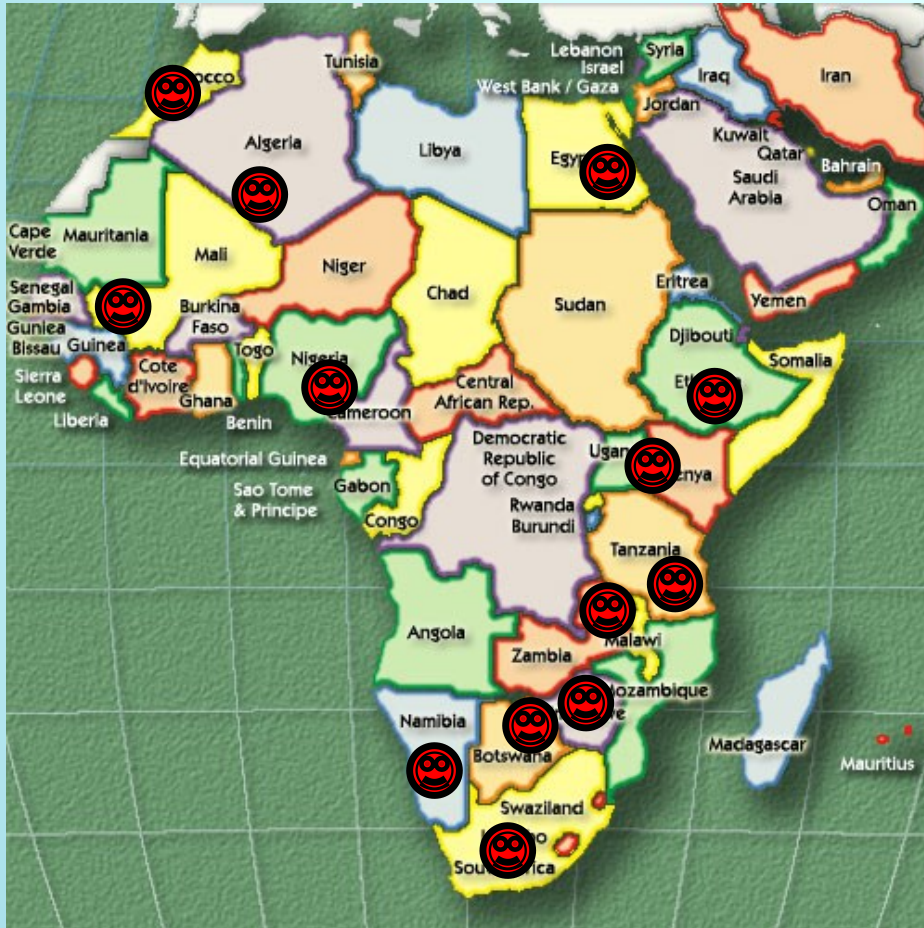
University of Nairobi, KENYA

University of Namibia, Namibia

University of Zambia, Zambia

Witwatersrand University, South Africa

University of Zimbabwe , Zimbabwe



Additional Support Opportunities

- ▶ **US:** NSF, ACS, MRS, APS, DOD, NIH, USAID, NAS, AAAS – Just to name a few.
- ▶ **Africa:** African Union, African Development Bank, and a number of African countries with good funding for scientific research
- ▶ **International**
 - EU/EC (European Union)
 - European countries individually
 - TWAS: www.twas.org
 - Asian countries individually
- ▶ **World Bank and IMF**
- ▶ **UN:** UNESCO, UNDP and other UN agencies
- ▶ **Foundations:** Carnegie, Ford, Gates, Rockefeller and others
- ▶ **Private Companies:** IBM, Cisco, Siemens, l'Oreal, Sasol, Coca-Cola, BASF, Intel and other companies within in USA, Europe, Asia and South America



Thank YOU!

<http://www.nsf.gov/mps/che/about.jsp>

<http://www.nsf.gov/od/iaa/ise/index.jsp>

<http://www.nsf.gov/mps/dmr/about.jsp>

